

2nd 80s Fire

Equipment Decontamination Plan (Enterprise Site)

04/18/2019

Revised 04/22/2019

Version 2.0

Approval:

Position	Name	Signature	Date
Incident Commander			
FOSC			
SOSC			

EQUIPMENT DECON PLAN MANAGEMENT OF CHANGE

Change 001			
<i>Description of Change (include sections & page numbers):</i>			
Addition of Barge for storage and transportation of decon rinse waters			
	Name/Position	Signature	Date Signed
Prepared By:	Helen Dubach		04/22/2019
Approved By:			
Change 002			
<i>Description of Change (include sections & page numbers):</i>			
	Name/Position	Signature	Date Signed
Prepared By:			
Approved By:			
Change 003			
<i>Description of Change (include sections & page numbers):</i>			
	Name/Position	Signature	Date Signed
Prepared By:			
Approved By:			

Preface:

This 2nd 80s Fire Equipment Decontamination Plan provides the plan for the decontamination of on-water response equipment and small response vessels at the Enterprise location.

The 2nd 80s Fire Decon Plan, commonly named the “Passing Vessel Decon Plan”, provides the plan for the decontamination of passing vessels and barges in the ship channel, i.e. passing commercial traffic not related to the oil spill response.

A separate Large Equipment and Vessel Decontamination Plan provides the plan for decontamination of large response vessels and barges, all MSRC (Marine Spill Response Corporation) equipment, and other response equipment that may be too large to handle at the Enterprise site. The Large Equipment and Vessel Decontamination Plan provides the plan for decon operations at Southwest Shipyards.

1. Introduction

The purpose of this plan is to identify the establishment of the land-based Decontamination (Decon) Site for on-water response equipment prescribed by Unified Command in order to conduct decontamination operations in a safe, organized and efficient manner while minimizing damage to the environment and waste generation.

Additionally, this plan serves to identify general guidance procedures to be followed both day and night by personnel performing decon on all equipment and vessels involved with spill response operations. Because these operations may involve transiting through slicks, operating within impacted waters or recovery operations, we may assume that vessel hulls, decks, machinery, tanks, piping, deck gear and other areas will be impacted. This plan will be used for all vessels, mechanical recovery equipment, and support equipment, either contaminated or suspected of being contaminated, in order to return all to a non-impacted state.

ITC shall classify, handle, and dispose of solid wastes in accordance with 30 Texas Administrative Code Chapter 335. In particular, any solid wastes that contact the contents of tank 80-13 or the tank system, which contained toluene, or the contents of any other tank or its system containing a product whose sole active ingredient appears on the RCRA "P" or "U" lists contained in 40 CFR 261.33 shall be classified, handled, and disposed according to the applicable requirements of 30 TAC Chapter 335.

2. SITE SPECIFICS

This site is presented as a proposed option for Decon activities

Proposed Decon Site

Site Name: Enterprise

Physical location: East of Beltway 8, east end of Enterprise property. West of Intercontinental Terminals Company LLC (ITC) property

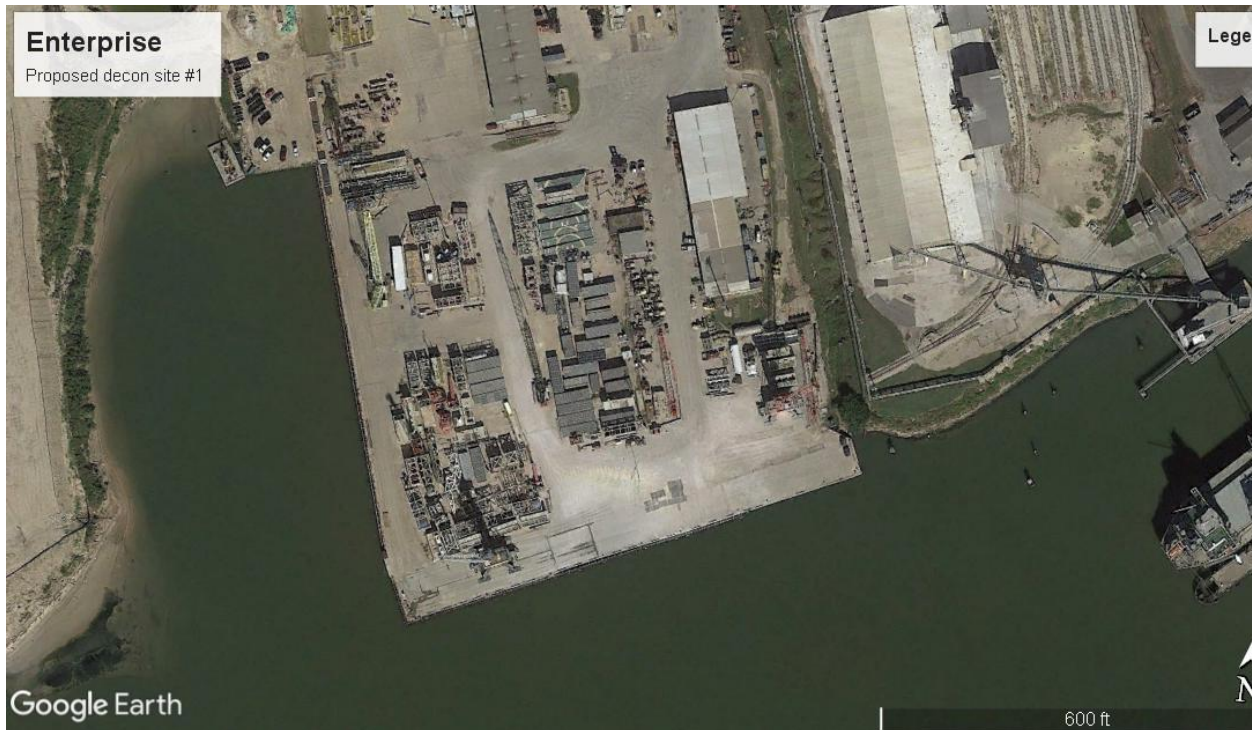
Address: 15902 Peninsula St., Houston, 77015

Coordinates: 29.741361° -95.117404°

Description: 4 acre site with bulkhead, crane and secure access and egress. West bulkhead measures 650'. South bulkhead measures 650'. Total available bulkhead is 1300'. Level, clean concrete pad.

Contact Person: Tyson McMahon (281) 860-4719

Decon Group Supervisor: Randy Henry (409) 540 0252



3. SITE PREPARATION

Upon approval of the plan and when access is granted to the facility, initial cleanup operations are necessary. These will include initial cleaning of larger asphalt debris, sediment, dust and scattered debris already present on site. This will be facilitated with the use of skid steers and large street sweeper. Permission has been granted by the landowner (Enterprise) to sweep this debris to the side of the decon site, and this will be the responsibility of the landowner. A final walk through by the Decon Group Supervisor and additional sweeping if necessary, will be conducted by a small labor pool under direction. In addition, an existing layer of mud must be removed in order to properly prepare one area for use. This mud and dirt will be stored onsite. The decon area may need additional rock or crushed asphalt to provide the most level and safest work area possible.

4. EQUIPMENT DECON OVERVIEW

Industry standards and best practices require, and Oil Spill Removal Organizations (OSROs) and regulators demand, that the Responsible Party (RP) must decon all equipment that was deployed in response to the spill before it is released from the incident and returned to its owners. This applies to small response boats, trailers, pumps, skimmers, pressure washers, etc. The management of used containment boom is not covered under this plan.

The purposes for promptly establishing a Decon site and operating procedures at any spill are several: to ensure that the contractor-owned and government-owned equipment will be ready for deployment at the next spill or drill without causing a sheen when it is deployed; so that equipment hauled over the road doesn't drip released material or otherwise spread contamination beyond the spill site, particularly onto roads or parking lots. In most states this is a requirement by state transportation and/or environmental agencies; so that equipment is returned to its owners in roughly the same condition it was in when it arrived with no transferable released material; and as a cost control measure, so that equipment that is

either no longer needed for the response or has broken down or can otherwise no longer be used, is returned to its owner as quickly as possible so that it comes "off the clock."

All contaminated equipment used in the spill response will be deconned to a condition of cleanliness agreeable to both the Unified Command and the equipment owner, namely that no transferable released material remains. This will be confirmed by visible inspection of exterior and interior of equipment and small boats, and wipe tests (i.e. wipe with sorbent or rag to confirm that no transferable released material remains).

Consumable supplies for Decon operations will be provided through the established OSRO(s) for this incident.

The T&T barges, MSRC OSRV (Oil Spill Response Vessel), and Clean Channel Co-op (CCC) barges mobilized for this response will be decontaminated according to specific procedures provided by T&T, MSRC and CCC and as such, are outside the scope of this Plan.

5. ORGANIZATION

The Decontamination Group will be organized as follows:

- Decon Group Supervisor
- Decon Strike Team Leaders
- Decon Manager
- Decon Supervisor
- Vessel Decon Foreman
- Equipment Decon Foreman
- Site Safety Officer
- Air Monitoring Project Manager
- Documentation (IAP Software Staff)
- Site Check-in Recorders

6. CONCEPT OVERVIEW

In view of the extensive equipment inventory involved in this response effort, the Decon Contractor will do the following:

- oversee gross decontamination of response vessels, in the field prior to transition to decon site;
- establish and oversee temporary berthing of impacted vessels; and
- oversee final decontamination of spill recovery vessels, response vessels, mechanical skimmers and other response equipment.

The primary focus of this operation will be to expedite cleanup of impacted vessels and response equipment in a safe, organized and efficient manner while minimizing further damage to the environment and waste generation. Personnel health and safety will be of utmost importance during all decon operations.

Equipment decontamination will occur as follows:

- Recovered liquid is to be off-loaded from skimmer cargo tanks to portable storage tanks and/or vacuum trucks pending transfer to ITC for storage until approval of the incident-specific Waste Management Plan.
- Equipment to be transferred into a bermed area and decontaminated.
- All equipment will undergo full decontamination prior to demobilization.

7. DOCUMENTATION OF DECON AND DEMOBILIZATION

In accordance with the approved Demobilization Plan, the decon process will be documented utilizing the ICS 221 (Demobilization Form). Each piece of equipment that is to be decontaminated will be documented in order to track equipment undergoing decon as well as to document acceptance of the equipment by its owner when decon is complete.

Paper and electronic files will be maintained by the Decon Group Supervisor and Decon Manager for each piece of equipment that comes to the site. Copies of all completed decontamination and release forms will be provided to the Resource Unit Leader and IAP Software Staff daily so that response resource records can be maintained up to date.

All Decon files will be turned over by the Decon Group Supervisor and Decon Manager to the Documentation Unit Leader, with copies to the Finance Section Chief, upon completion of Decon operations and demobilization of the Decon site.

8. DECONTAMINATION PROCEDURES

8.1 Safety

Personnel safety will always be the highest priority at the Decon site. Air monitoring will be conducted in accordance with all state and federal regulations, and with the incident-specific Work Area Air Sampling and Analysis Plan, which shall be kept on site along with this plan.

See Attachment **A** - Site Specific Safety Plan

8.2 Confined Space

Any confined space entry required as part of this decontamination project will be issued a confined space entry permit and rescue team will be on standby.

8.3 Procedures

Equipment decontamination is planned to occur in two phases:

1. Recovered released material is to be off-loaded from skimmer cargo tanks to portable storage tanks and/or vacuum trucks pending transfer to ITC for storage until approval of the incident-specific Waste Management Plan.
2. Equipment to be transferred into a bermed area and decontaminated. All equipment will undergo full decontamination prior to demobilization.

A priority assessment of each piece of equipment will be made by the Decon Manager as it arrives at Decon, to ensure a timely flow of equipment through the decon process and to ensure that higher cost equipment is able to be demobilized as promptly as possible. The Logistics section will provide guidance in this regard; e.g., Logistics will notify the Decon Manager when a high-cost piece of equipment such as a self-propelled skimmer is scheduled to be demobilized soon and/or is on its way to Decon. Depending upon the priority assigned by the Decon Manager, equipment will be directed to either the Decon staging area or to a decon pool.

If equipment arrives at Decon by water, the shoreline will be lined with visqueen, industrial cloth or other appropriate material to prevent damage to the shoreline and/or secondary contamination by the impacted equipment, as well as to prevent damage to the equipment. In addition, the berthing area at

the decon site will be boomed off to prevent movement of any potential released material back into the ship channel.

All decon operations will take place in Decon pools, which will be set up on either side of an open roadway such that trucks and trailers can move freely without turning around and without interrupting work operations or endangering personnel. The pools will be set up on clean, flat ground on layers of visqueen and industrial carpet or 40 mil HDPE matting. Each decon pool will be constructed with a wide swath of visqueen around it to allow for splash potential and will be bordered by curbing that includes sorbent boom in order to prevent effluent from the pools from escaping containment and contaminating the ground. Pools will be sloped to enable collection of rinsate by vac truck (see Section 11 for details).

Trucks will be backed into a pool to be cleaned. Boats, skimmers and other equipment will be set in a pool by forklift or crane if required.

All trailered equipment will be backed into a decontamination pool.

Upon entering a pool, all equipment will first be thoroughly sprayed down with degreaser and scrubbed and / or hot water washed until clean. A biodegradable cleaning solution, (Simple Green or Citra-Solve, MSDSs attached) will be utilized as a degreaser and will be applied by a Hudson sprayer as applicable. Both cleaning solutions are citrus based so that they do not leave a petroleum sheen on the equipment after the cleaning process. Actual pressure washing, if required, will utilize a hot/cold pressure washer with a temperature range up to 220° F and a pressure rating up to 5000 psi. All personnel tasked with operating pressure washers shall be required to wear modified PPE Level D which can include, but is not limited to raingear, gloves, eye protection and metatarsal guards.

Lined decon areas will be monitored for splash over liquids or rainwater, and significant accumulations will be pumped into vac trucks. During heavy rain, the decon pools and lined areas will be covered with poly liner to minimize rainwater ingress and reduce the generation of waste.

Every attempt will be exercised to mitigate noise-generating equipment by placing it in insulated areas. Once the piece has been determined clean to the owner's standard, the equipment will be demobilized.

9. PORTABLE EQUIPMENT

A separate decontamination area has been identified at the decon site for small equipment (see Site Layout, Section 17). This area will be lined and bermed in the same manner as the rest of the decon site. The above-mentioned method will be used to clean any small equipment involved in the spill response.. Mechanical recovery equipment may require a breakdown to allow for access to areas and components of that equipment which may harbor residual released material not readily visible or observed during visual inspection. There will be a representative from each of the two primary OSROs on site during Decon operations. Any mechanical work necessary will be conducted by the owner of individual pieces of equipment.

10. RESPONSE VESSELS, INCLUDING SELF-POWERED EQUIPMENT

For purposes of enhancing personnel safety we recommend that transport of the response vessels to the Decon Site be conducted by trailer. In order to prevent secondary contamination of the launch sites or transport route, all vessels identified for decon/demob will initially be gross deconned at their dedicated launch sites (Bayland Marina and Market Street, both of which are closed to the public due to the

response). This process will include a thorough wipe down of each vessel as it is removed from the water and trailered. All vessels will be trailered on individually assigned trailers as identified and confirmed by the registered and contracted owner or named representative. This wipe down will be facilitated with an appropriate pad (chemical/oleophilic). The approved cleaner will be applied to a pad which will then be used for the wipe down process. No Hudson sprayers will be used to apply the approved cleaner and no pressure washers will be used to clean the vessels at this stage, minimizing any possibility of impact to the boat ramps or surrounding land. All liquid observed within the vessel hull and on deck will be removed by means of vacuum system and/or rags/pads as required. Once liquids are removed, boat plugs will be confirmed to be in place and secure. This will greatly limit any chance of residual liquids being lost in transit to the approved Decon Site. Wastes generated during the wipe-down process will be stored in poly-lined rolloffs or vac trucks and transferred to ITC for storage until approval of the incident-specific Waste Management Plan.

Plan.

Vessels arriving at the approved Decon Site by trailer will be directed to the designated decon area for that equipment. Boat trailers with boats will be staged in the vicinity of the next available decon pool. These boats and trailers will then be backed into a decon pool utilizing a fork lift outfitted with a ball hitch. Once completed and confirmed clean the trailer and boat will be removed from the decon pool and staged for pick up by the owners' truck for demob and final transit returning these vessels to their home facility.

Alternatively, vessels can transit on water directly to the Decon Site, where they will be lifted with a crane operated by a certified Crane Operator and using a Certified Rigger and placed in the pre-decon area. Due the variety of vessels now deployed this will require several sizes of strap sets to be fabricated in order to be prepared for the different vessel hull sizes and configurations. This initial pick will remove the vessel from the water and then place the vessel either in the pre decon area or directly into a decon pool, set upon cribbing which will need to be adjusted to conform to the hull configuration and size of each vessel. Vessels will be blocked using 12"x12" wood cribbing. A decontamination team will be assigned to the vessel decon pool. Vessels will require the hull to be washed / wiped to remove residual material. All efforts will be made to remove residual material from the hull and machinery. This decontamination process will include the application of the approved cleaner by Hudson sprayer, scrubbing and pressure washing as necessary. See Section 11.0 for handling for decon generate waste water. Additional picks/lifts may be required to facilitate freeing up the decon pool for continuous operations. Clean vessels may be required to be staged while awaiting their assigned trailers for final demob and transit to their home facility. Upon arrival of the vessels assigned trailer the vessel will be lifted a final time for placement aboard it's trailer. The vessel will be released from the decon area following an inspection, approval, and signature by the owner.

11. DECON GENERATED WASTE WATER

Rinsate generated from decon operations will be collected from the pools directly by hose to a vac truck and transferred to frac tanks or 30,000bbl storage barge moored at the Enterprise dock.

- If offloading into frac tanks, as the liquid level in a frac tank approaches approximately $\frac{3}{4}$ full, the Decon Manager/Decon Foreman will request a 130 bbl vac truck to transport the contents in accordance with the UC-approved Waste Management Plan

- If offloading directly into a barge, the barge will be taken to the ITC docks once full (or once decon operations are complete) and offloaded into one of the incident specific storage tanks as described in the UC-approved Waste Management Plan. It is not anticipated that decon operations will fill the barge.

The management and final disposal of liquid and solid wastes will be pursuant to the Unified Command's Waste Management Plan, once approved.

12. CERTIFICATE OF DECONTAMINATION

For this project, a Certificate of Decontamination (Attachment B) has been created. This document reflects the date of entry into the decontamination area along with an adequate description of each piece of equipment to be decontaminated. Once approved by the equipment owner's representative, the said representative will sign and date the certificate of decontamination. A digital photo will accompany the certificate of decontamination and will be turned in to the spill management team.

Once a piece of equipment has been determined to be clean by the Decon Manager, it will be moved to a clean holding area at Decon and the owner's authorized representative will be notified. The owner's authorized representative will signify his/her concurrence that the equipment has been sufficiently cleaned by completing and signing the Released to Owner section of the Certification of Decontamination form.

A support zone will be established within the Decon site for consumable supplies, bottled water, etc. At least one break tent and/or building will also be established within the Decon site to allow workers to take breaks out of the weather.

13. SAFETY/SECURITY

All personnel working in or near the pools will always be properly attired in raingear, gloves, eye protection and metatarsal guards. In the interest of maintaining a safe work environment, workers who violate this PPE policy will receive one warning and will be subject to possible dismissal for subsequent violations.

A site-specific Safety and Health Plan will be established for the Decon site and appended to the overall response Site Safety and Health Plan. Air monitoring will be conducted in accordance with all state and federal regulations and the incident-specific Work Area Air Sampling and Analysis Plan.

If decon activities result in detections of Volatile Organic Compounds (VOCs) above actionable levels, additional Personal Protective Equipment (PPE) requirements will be implemented as necessary (e.g. respiratory protection).

A contracted ambulance will always be staged on site when decon activities are in progress.

- All personnel engaged in Decon activities shall possess a valid Transportation Worker Identification Credential (TWIC).
- A contracted ambulance will always be staged on site when decon activities are in progress
- 24-hour site security will be maintained at the Decon Facility throughout the decon process.

14. PERSONNEL REQUIREMENTS

Decon will be coordinated by the Decon Group Supervisor (TRG) and managed by the Decon Manager (NRC). Decon will be staffed by the selected Decon contractor in such numbers of supervisory personnel and workers as the Decon Manager deems appropriate each day as the workload varies. All operational and supervisory staff shall be trained in accordance with 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER), and any confined space entry shall be conducted by 33 CFR 1910-146 trained personnel.

Operations will run up to 24 hours a day, in two shifts up to 12 hours each, as the Decon Manager deems appropriate each day considering the amount of equipment ready to be decontaminated and demobilized on a given day. The anticipated maximum number of personnel required for a shift will be as follows, although work demands may at times call for more:

Positions (per shift)

- Decon Group Supervisor (1)
- Decon Strike Team Leaders (2)
- Decon Project Manager (2)
- Decon/Staging Transportation Coordinator (4)
- Decon Supervisor (4)
- Decon Foreman (6)
- Decon Site Safety Manager (1)
- Decon Site Safety techs (3) Equipment Operators (4) Fuel Delivery Driver (1)
- 70 bbl Vac Truck driver (3)
- 130 bbl Vac Truck driver (1) Roll off truck driver (1) Techs demob pad (2)
- Techs dirty pad (2)
- Storekeeper for Central Supply (1) Decon Foremen (6)
- Decon Technicians (104)
- Air Monitoring Teams (6)*
- Admin (2)
- Logistics/Finance (2)
- IAP Software Staff (2)
- Check-in Recorders (2)

*Two man team per 12 hour shift with AreaRAEs to cover the work area and perimeter monitoring of decon (one to man the computer console and one to maintain equipment and verify readings). Plus one person per shift to roam the neighboring facilities for VOCs and benzene

15. EQUIPMENT REQUIREMENTS

The following equipment will be used to conduct Decon operations, although it is recognized that other equipment and/or supplies may be utilized as determined by the Decon Manager in consultation with the Foreman:

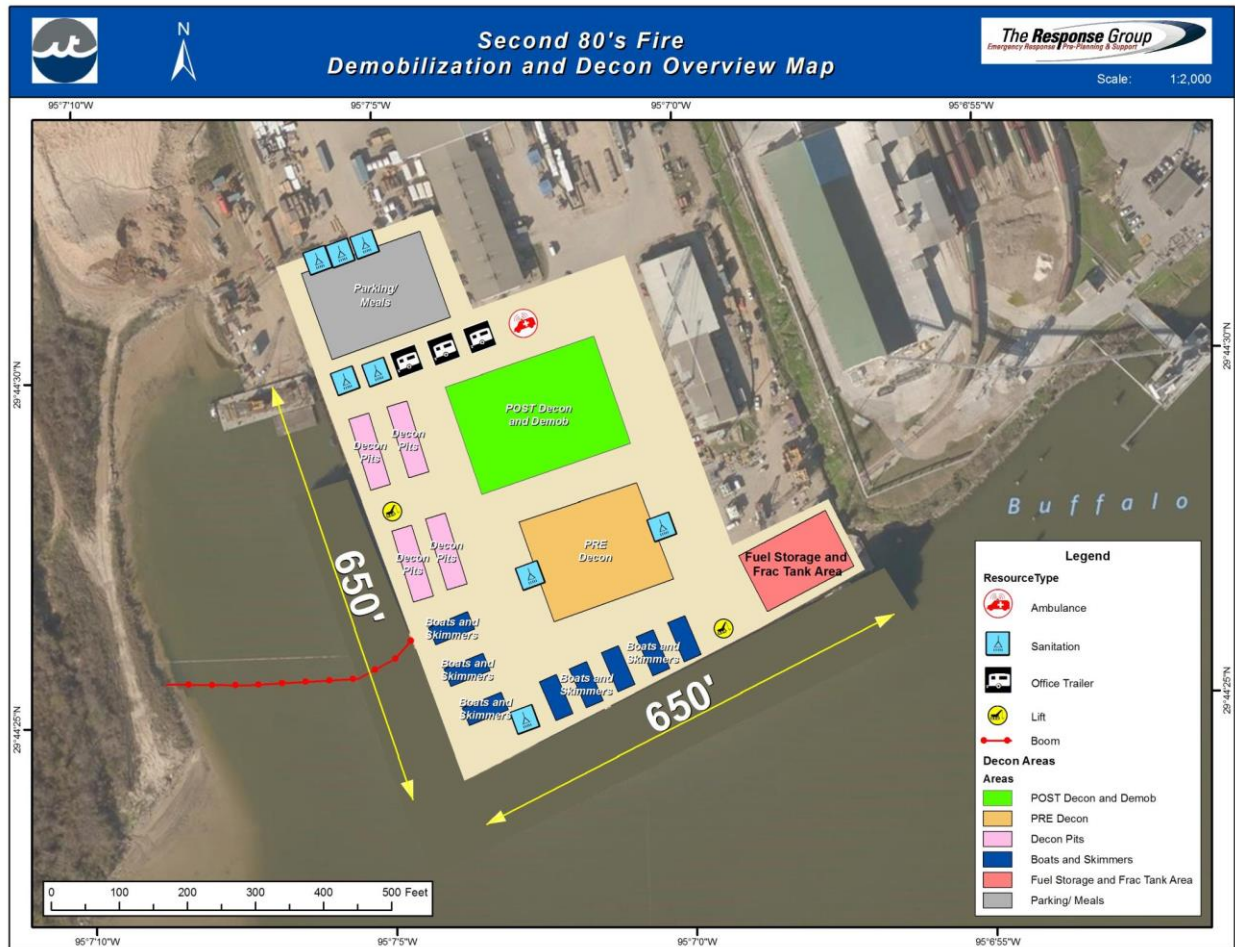
Qty.	Description	
2	Mobile Office/Command Trailers	
1	Equipment Trailers, Central Supply	
2	ATV/UTV	
20	Hand held radios with belt or shoulder clip	

tbd	charging stations and additional batteries	
2	Forklift	
2	JLG (Extended Reach Fork Lift)	
4	25' X 110' Decon Pools	
8	25' X 50' Decon Pads	
75	4' x 6' containment pool for light towers	
2	Digital Cameras	
24	3500-5000 psi Hot Water Pressure Washers	
3	15 kW Generators	
2	Office/Construction Trailer	
145	Level D PPE	
11	Confined Space Entry PPE (see Attached Site	
2	Frac Tank, 500 bbl	
3	70 bbl Vac Trucks (all with duck bill skimmers)	
1	130 bbl Vac truck	
2	185 cfm Air Compressors	
24	2" Single Diaphragm Pump / Wash pump	
1000'	2" Suction/Discharge Hose	
3	Explosion Proof Lighting	
50	Portable Light Towers	
15	20 lb. ABC Fire Extinguishers	
2	Confined Space Entry Safety Equipment (Tripod, Winch,	
2500	Waterproof Equipment Tags, Permanent Markers	
15	25 cubic yard Roll Tarp Roll Off Boxes (contaminated)	
2	25 cubic yard Roll Tarp Roll Off Boxes (household)	
17	Roll Off Box Liners	
	Air monitoring equipment (AreaRAEs, UltraRAEs, others as necessary)	
3	27' Boats	
1	Crew Tent (40'x80')	

16. SITE DEMOBILIZATION

Upon final breakdown and closure of the equipment decontamination operation, a joint survey of the facility will be conducted by the Responsible Party, TCEQ, and other participating agencies. Pre- (background) and post- operational sampling and analysis of soil and dock water will be conducted to confirm that no contamination has occurred due to decon operations (see Decon Site Sampling Plan attached). The site will be considered clean when samples are at or below background levels or, if they do not meet background levels, meet the Texas Risk Reduction Program (TRRP) Standards.

17. PROPOSED SITE LAYOUT



Attachments:

- Decon Site Sampling Plan
- Certificate of Decontamination
- Degreaser SDSs
- Site Specific Safety Plan

DECON SITE SAMPLING PLAN

1. PURPOSE AND OBJECTIVES

On Sunday, March 17, 2019, a fire broke out at Intercontinental Terminals Company LLC (ITC) resulting in firewater discharge from ongoing emergency response activities. This work plan describes the process for sampling soil and water at the equipment decon site that will be established in response to the 2nd 80's Fire in order to compare baseline conditions with post-operational conditions (see Section 16 of Equipment Decon Plan).

a. Purpose

This sampling plan guides the collection of baseline and post-activity water and soil samples at the equipment decon site established in response to the 2nd 80's Fire.

b. Objectives

The objectives of the *Decon Site Sampling Plan* include the following:

1. To provide data characterizing baseline conditions at the Decon site;
2. To provide data characterizing conditions at the station(s) after decontamination activities are complete; and
3. To provide information that can guide clean-up activities at the Decon site after active decontamination activities are complete.

2. HEALTH AND SAFETY

Safety is the most important consideration when implementing this plan. All field team members will read the incident-specific site health and safety plan (HASP) and receive a daily safety briefing before going into the field. A daily tailgate safety meeting must be held prior to any fieldwork and a written record of the daily tailgate safety meeting, including signatures of all personnel present, will be maintained.

Field team members collecting samples by boat will receive a boat safety briefing from the boat operator prior to leaving the launch area. When on the water, field team members will wear personal floatation devices at all times. Use good judgement when considering fieldwork during inclement weather and/or near other marine traffic particularly heavy shipping. No sampling will be conducted in the dark. While working on the shoreline, field team members should be mindful of slippery surfaces (e.g., rocks) and sharp objects. Field team members should wear safety glasses, sunscreen, appropriate footwear (safety toe), and other personal protective equipment (PPE) as required by the Safety Officer. Any incident will be promptly reported to the Field Team Coordinator, who will notify Incident Command.

When collecting samples, team members will wear appropriate protective equipment (e.g., Flame Resistant Clothing - FRCs) as needed. When sampling for PFAS, field staff should NOT wear any waterproof clothing, waterproof footwear, or Tyvek. Field crews should also stay away from waterproof paper and plastic clipboards to minimize potential cross-contamination. Nitrile gloves will be worn when sampling and must be changed between each sampling site.

Specific safety considerations for this sampling operation include the following.

- Follow the Site Safety Plan.
- Some of the released material may be difficult to detect visually. Carefully inspect shorelines before leaving vessels/parking areas; when on shorelines work as a team that includes the CTEH air monitor so long as conditions warrant.
- Use personal flotation devices when transiting across water and review safe boating practices
- Watch for slips, trips, and falls.
- Wear hearing protection when designated.
- Watch for heat stress.
- Avoid interaction with wildlife.
- Protect hands.
- Operate equipment according to instructions.
- Practice good housekeeping in work areas.

Of specific concern is nuisance oiling on shoes, clothes, and the potential for cross contamination. To prevent this, when teams are on shorelines they should don booties and gloves (which are available at the staging areas); full Tyvek coveralls are optional. Protective clothing should be removed as teams exit oiled areas and disposed of at waste receptacles (available at staging areas). If shoes or clothing does become oiled, there are decontamination stations at the staging areas.

3. SAMPLING

This sample collection plan provides sampling protocols and sample design principles. The protocols and principles are applicable to any Decon site that may be established in response to the 2nd 80's fire.

a. Sample Frequency

Sampling will be conducted: (1) before decontamination activities begin; (2) when decontamination activities are complete; and (3) as needed to guide any clean-up activities that maybe required at each site.

b. General Sampling Procedures

This section describes general methods for collecting soil, sediment, and/or surface water samples at the equipment decon site. The sampling team will document field-derived information, observations, and other field data in field logbooks and/or on field sampling forms. Information in the logbook should include sampling details (i.e., field team members, sampler name, sample type, location (GPS coordinates, and time/date) and other observations (i.e., presence of wildlife and humans, visual observations, weather). For complete details about field documentation procedures, refer to Cardno's *Field Documentation Standard Operating Procedure (SOP)* (2016a).

GPS coordinates will be recorded for each sampling location. Prior to conducting any sampling and after recording the GPS coordinates for the location, photographs or videos should be taken of the sampling site.

C. Surface Water Sampling

Two surface water samples will be collected at the decon site waterside, one on either edge of the bulkhead.

Sample containers and preservatives will be provided by the laboratory. Samples will be placed in individual pre-cleaned containers for shipment to the laboratory. Samples will be collected and stored in accordance with EPA SW-846–Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods and TCEQ QAPP. (See SW-846 Chapters 1, 2, 9, and 11 for descriptions of accepted sampling methods, plans, QA/QC and relevant procedures). With prior approval through Unified Command, ASTM methods may be substituted in waste characterization and sampling, or in cases where the ASTM method is specified in regulations. In cases where guidance does not exist for specific constituents, we will work in a manner consistent with laboratory instructions. A Chain of Custody (COC) record will be utilized to maintain the integrity of the samples during the collection, storage, and transportation of samples. COC forms should accompany field samples at all times. When transferring possession of the samples, the individuals relinquishing and receiving the samples should sign, date, and note the time of transfer on the COC form. Samples should remain in the physical possession of the person assigned to the samples until they are transferred to another individual or shipped to the laboratory. For additional details refer to Cardno's *Sample Custody Procedures Standard Operating Procedure (SOP)* (2016c).

Samples will be, shipped under proper COC, to ALS in Kelso, WA¹, a NELAC -accredited (# T104704427) and Texas certified laboratory.

LABORATORY ANALYSES

The following tables summarize the potential laboratory analyses, required sample volumes, sample containers, and preservation methods. Parameters are based on the knowledge gained in the field over the past weeks, including the components identified in outfall 002. Laboratory analyses may be modified during the course of sampling and will be approved by prior to proceeding with any changes.

Table 4-2 summarizes the laboratory analyses, required sample volumes, appropriate sample containers, preservation methods, and holding times for water samples.

Table 4-2 Laboratory Analyses for Water Samples				
Analyte	Test Method ¹	Sample Volume and Containers ²	Preservation	Sample Holding Time ³
Alk PAH	SW846-8270D SIM	Two 1-L amber glass; Teflon-lined cap	<4 °C	7 days to extract; 40 days for extract

¹ ALS Global, 1317 S. 13th Ave., Kelso, WA 98626

BTEX	SW846-8260C	Three 40 mL glass vials, Teflon-lined septum	No headspace, HCl, <4 °C	14 days
Metals*	SW846-6010	500 mL HDPE	HNO ₃	6 months
PFAS*	537.1	Teflon-free HDPE	<4 °C	28 days

¹ Additional test methods may be used that are specific for the analytical laboratory, media/oil type, or as required by regulatory agency.

² Sample size excludes volumes for QA/QC analyses (i.e., replicate sample analyses). It is recommended that all samples be collected in duplicate containers in case of breakage during storage, transport or shipping. (Additional volumes required for collecting samples in duplicate containers are not included).

³ Sample holding time before extraction.

* Sub-surface samples not analyzed for these parameters.

Note: VOCs were considered, however given that no VOCS outside of BTEX have been identified from sampling at the 003 outfall, this suite is unnecessary.

d. Soil Sampling

Prior to sampling, consider the area to be sampled to determine where soil will be collected, the number of soil sample jars that will be required, and the appropriate sample jar labeling method.

- Split the area into three transects running south to north. Note that the entire pad is paved to the bulkhead.
- Where encountered in low spots on the pad, collect soil along transect and place into 2- 4-ounce jars. Be as representative as practical in collecting soil from transect being sampled.
- Select one location along each transect for a grab sample (using Terracore kits provided by the lab) for volatiles.
- Repeat steps for two more transects to complete three transects (west, center, and east).

Prior to any sampling, and after marking the station location by collecting GPS points, photograph the sampling site. Take photos in both of the general sampling area, making sure to capture structures, etc. for geographical reference.

Collect surface soil with a clean, gloved hand² from the top half inch of the soil column. Avoid stones, wood and other debris and prioritize topsoil, which is the most likely soil component to contain contaminants. Fill the jar to the rim, wipe off residual soil from the threads and screw on the lid. Complete the sample label(s) with the date, time, sample ID and requested analyses.

Record anomalies such as odors or stains in the field logbook or field form. Replace gloves when they become too soiled for sample handling at a location. Don new gloves before sampling a new location.

After collecting samples, seal the sample containers, label, and immediately place in an ice chest with wet ice. Label sample jars using the following nomenclature,

Matrix-YYMMDD-Location Code-Replicate-Team Number

Decon Station Soil-20180619-Decon Station NAME-001-Team001

Samples will be, shipped under proper COC, to ALS in Kelso, WA³, a NELAC -accredited (# T104704427) and Texas certified laboratory. The lab will be instructed to homogenize the 4-oz jars before analysis as it was not feasible in the field at the time.

The sampling coordinator will coordinate with the laboratory prior to sampling to ensure that the appropriate analytical methods and detection limits are used (i.e., detection limits will be below proposed benchmarks) consistent with TCEQ's Quality Assurance Project Plan (QAPP) and SW-846. Additional samples will be collected for quality assurance/quality control (QA/QC) purposes. QC samples will include trip blanks, field blanks, field duplicates, and Matrix Spike/Matrix Spike Duplicates (MS/MSD). Trip blanks will be provided by the laboratory, at a frequency of one per cooler containing samples submitted for BTEX and/or PFAS analysis, must contain deionized water, and will accompany sample containers into the field and be returned to the laboratory without being opened. Field blanks will be samples of DI water that are transferred from original container to empty container while in the field, only newly filled bottles need to be sent back to the lab. Field duplicate samples will be collected for water and will be submitted to the laboratory "blind." MS/MSD samples are triplicate volume which includes the original sample. Field duplicates and MS/MSD samples will be collected at a rate of 1 per 20 field samples and field blanks will be collected once per sampling day. In this case, only one will be required per sample mission. All QC samples will be analyzed for the same laboratory parameters as field samples.

3.D.1 *CHEMICAL ANALYSIS*

Samples will be analyzed for PFAS, alkylated polycyclic aromatic hydrocarbons (PAHs), BTEX, and metals. Further details can be found in Table 3.D.1-1. Parameters are based on the knowledge gained in the field over the past weeks, including the components identified in outfall 002. After reviewing results and field conditions, ITC and/or Cardno may make changes to these analyses.

3.D.2 *SAMPLE HANDLING AND SAMPLE CUSTODY*

Sample containers and preservatives will be provided by the laboratory. Samples will be placed in individual pre-cleaned containers for shipment to the laboratory. Samples will be collected and stored

² Nitrile gloves will be worn when sampling and must be changed between each sampling site

³ ALS Global, 1317 S. 13th Ave., Kelso, WA 98626

in accordance with EPA SW-846—Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods and TCEQ QAPP. (See SW-846 Chapters 1, 2, 9, and 11 for descriptions of accepted sampling methods, plans, QA/QC and relevant procedures). With prior approval through UC, ASTM methods may be substituted in waste characterization and sampling, or in cases where the ASTM method is specified in regulations. In cases where guidance does not exist for specific constituents, we will work in a manner consistent with laboratory instructions. Field personnel will keep samples cold by placing wet ice in the coolers in which samples will be stored until delivery to the analytical laboratory.

A COC record will be utilized to maintain the integrity of the samples during the collection, storage, and transportation of samples. COC forms should accompany field samples at all times. When transferring possession of the samples, the individuals relinquishing and receiving the samples should sign, date, and note the time of transfer on the COC form. Samples should remain in the physical possession of the person assigned to the samples until they are transferred to another individual or shipped to the laboratory. For additional details, refer to Cardno's *Sample Custody Procedures SOP* (2016b).

3.D.3 LABORATORY ANALYSES

The following tables summarize the potential laboratory analyses, required sample volumes, sample containers, and preservation methods. Laboratory analyses may be modified during the course of sampling and will be approved by prior to proceeding with any changes.

Error! Reference source not found. summarizes the laboratory analyses, required sample volumes, appropriate sample containers, preservation methods, and holding times for Decon site soil samples.

Table 3.D.3-1 Laboratory Analyses for Decon Site Soil Samples

Analyte	Test Method ¹	Sample Volume and Containers ²	Preservation	Sample Holding Time ³
Alk PAH	SW846-8270D SIM	1 – 4oz straight sided jar	<4 °C	7 days to extract; 40 days for extract
VOCs	VOCs SW846- 8260C	– Two 40 mL glass vials, Teflon-lined septum Terracor kits	<4C	14 days
BTEX	SW846-8260C	Terracor kits - Two 40 mL glass vials, Teflon- lined septum	<4 °C	14 days
Metals	SW846-6010	1 – 4 oz straight sided jar	<4 °C	6 months
PFAS	537.1	Teflon-free HDPE	<4 °C	28 days

-
- ¹ Additional test methods may be used that are specific for the analytical laboratory, media/oil type, or as required by regulatory agency.
 - ² Sample size excludes volumes for QA/QC analyses (i.e., replicate sample analyses). It is recommended that all samples be collected in duplicate containers in case of breakage during storage, transport or shipping. (Additional volumes required for collecting samples in duplicate containers are not included).
 - ³ Sample holding time before extraction.

4. DATA QUALITY ASSURANCE

As part of the Quality Assurance/Control (QA/QC) process, a standardized process consistent with TCEQ's Quality Assurance Project Plan (QAPP) and/or SW-846 will be established for collecting, reviewing, and tracking field data and sample custody information recorded during field sampling activities, and uploading this information into a project database and/or centralized project records (e.g., electronic filing system). Incorporation of these data management tools is important for assembling the required information in a timely manner and will aid in on-going data reporting efforts.

An important principle, applicable to all data and documents collected and prepared, is that they are potential evidence in legal matters of considerable importance to many parties. As such, they must be correctly, completely, and accurately recorded in a timely manner, and fully safeguarded.

5. REFERENCES

Cardno. 2016a. Standard Operating Procedures for Field Documentation Procedures.

Cardno. 2016b. Standard Operating Procedures for Sample Custody Procedures.

TCEQ Quality Assurance Project Plan For Environmental Monitoring and Measurement Activities Relating to the Resource Conservation and Recovery Act (RCRA) & Underground Injection Control (UIC) (2019)

EPA. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).